

The Aspect Experiment (class 1983)

(New Introduction)

The Philosophy of QM has been appearing recently in the popular and semi-popular press.

Ex 1 In Nov 1979 D'Signat published an article in Scientific American with the title: 'The Quantum theory and reality'. The sub-heading read as follows: 'The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with QM and with facts established by experiment'.

This caused a furor among physicists and also among philosophers. How could experiment prove the non-existence of an objective world. (cf Berkeleyan dogmatism v. Humean Scepticism) - to argue for the fact that something's existence cannot be proved to the point of its non-existence).

Well what are the experiments which enable us to do experimental realisations

2 on 28th Aug 1981 The Times carried a report. "Random Events occur in Einstein". The paper's promotion since the experiment referred to was apparently a celebration run for Aspect's apt.

Note: There are 3 Aspect Experiments

1981 1.) More precise version of the Freedman-Clauser
Expt (1972)

1982 2.) The Aspect-Rapisarda expt. with
2-channel polarisers resulting
in a so-called 4-Correlated
experiment. Similar expt. is
being carried out at Catania
by Rapisarda's group.

1982 3.) The Time Aspect Experiment
with the optical Synchroniser.

The idea got lost to Bader 1951
 can further discussed in Bader
 and Pharoah in 1957 and by
 Bader in 1964. But the first really
 product began to appear in 1975 and
 then 2 years later the experiment was
 actually made to work.

I tell the officers I want to
 do this the background to the
 experiment in the introduction of
 the report is concerned with
 new ideas - I put my paper
 have the idea that the
 operation and the operation
 of the two different things
 might be in doubt but the fact
 that it is a bit better than that.

By Alan Aspart Sean Doherty
 and Gerard Rogers.
 Using time - varying parameters,
 Estimating part of the parameters,

In Part 1983 No further time
 cannot to be done, why, because
 we have that type of factor
 the last year to the fact that
 they had been spent in 1982 for
 the 1982.

- not the experiment itself.

Year	Event	Notes
1972	Frederick, Eleanor	✓
1972	Robert, Aileen	×
1976	Eleanor	✓
1976	Fry, Thompson	✓
1981	Robert, ed. -	✓
1982	with 2 - Charles, Johnson	✓
1982	with official studies	✓
1982	Don - early 7	✓

Zaworki - Racht, 17c18s (1976) ✓

3) $\frac{I - \mu_y}{\sigma_{y^2}}$ koefisien korelasi
state & pertumbuhan (per total u.u., Shalaby (1950))

Year	Location	Notes
1975	Kaslo, B.C.	✓
1974	Forest, B.C.	X
1977	Burns, B.C.	✓
1976	W. Lake, B.C.	✓

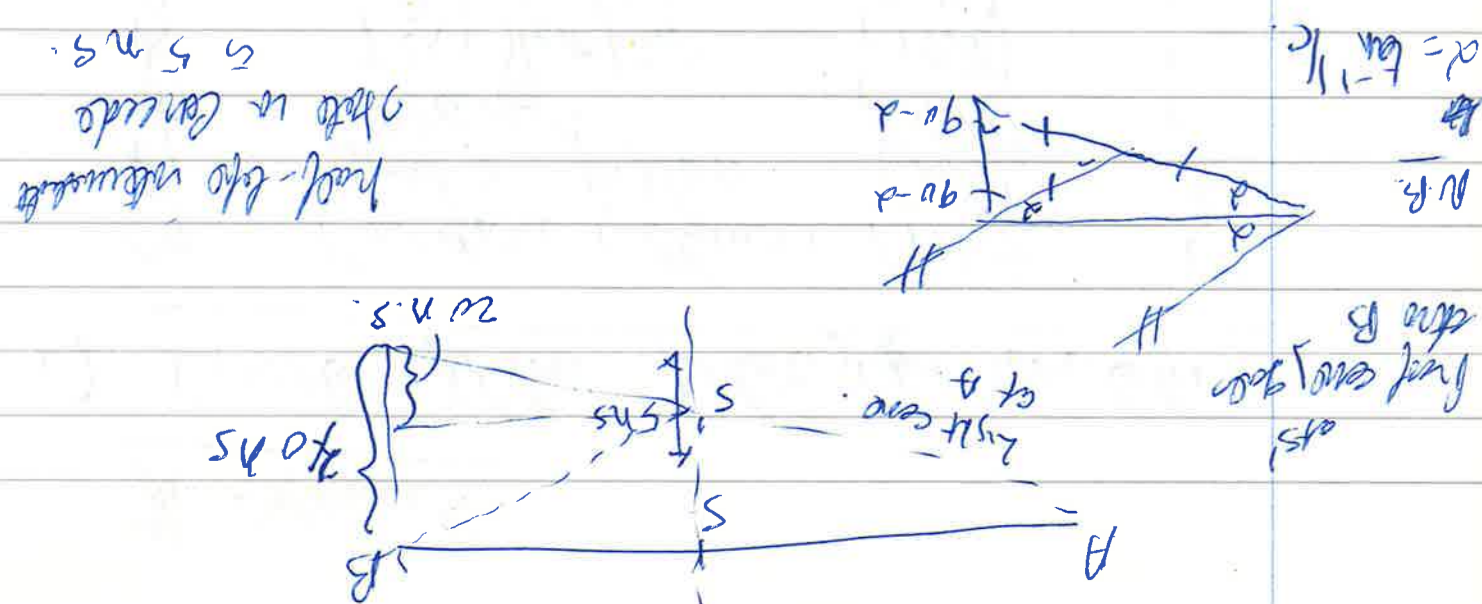
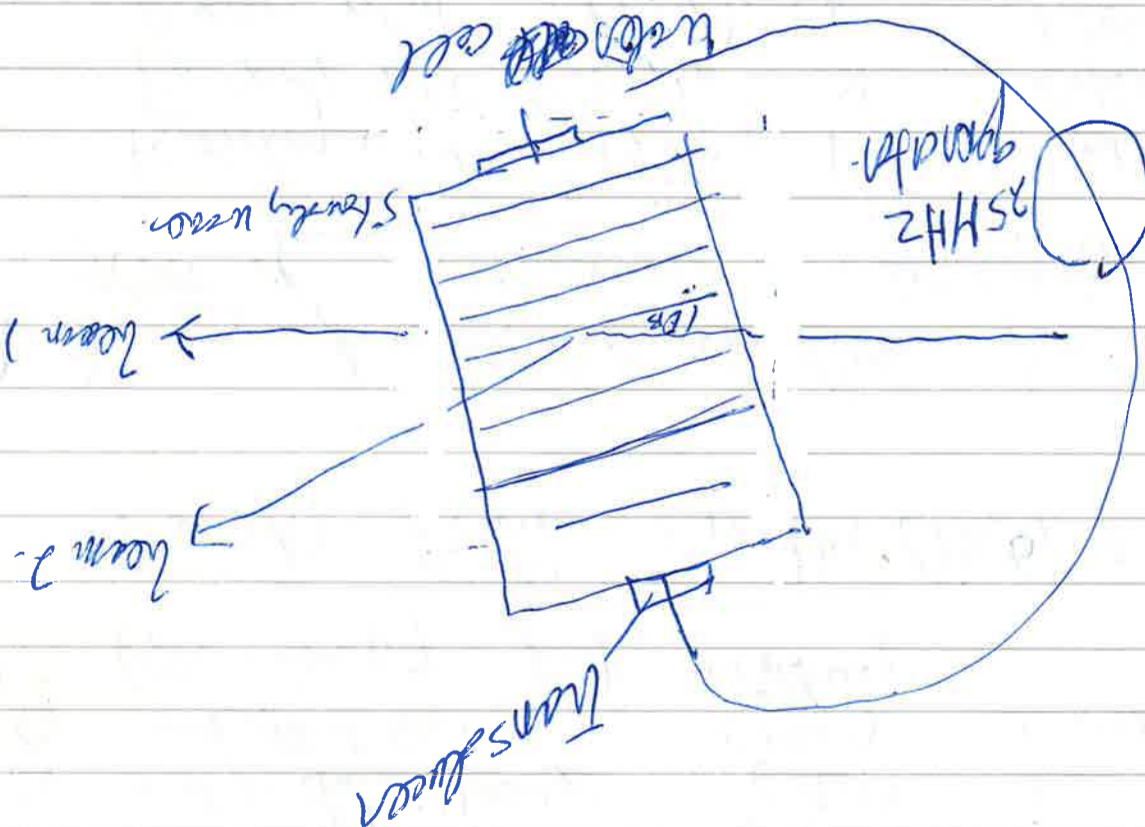
But River-fishing
English station
Pond for 20
around for
further 2 years.

(4) Beer's & Lambert's laws are for

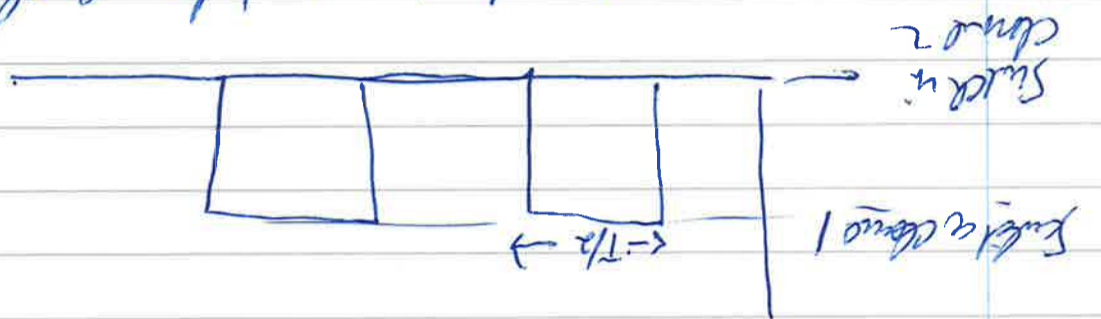
preferred by Co. Stearns (1981)
 P.A. # 23, 3003-3012
 Literature is that skin-located myxos
 can be used to measure skin degradation
 (not possible to produce)

N.B. This is internal between the things
 He refers to time to transmit information
 between the 5 units
 There was in time to transmit information
 to the source
 Smooth. actual change only 10 ns.
 in 1/2 time after taken from source to switch.

Range ang. $\theta_R = 5 \times 10^{-3}$ rad.
 Deflection = $\theta_R = 10 \times 10^{-3}$ rad $\approx \frac{1}{2}^\circ$



Switch used in studying wave in water cell taking
as wave in water different getting



In actual experiment, frequency used was
near resonant around 17.5 MHz
 50 MHz . ($T_h = 10^{-8} = 10 \text{ ns}$)
According to accurate frequency of 2.5 MHz

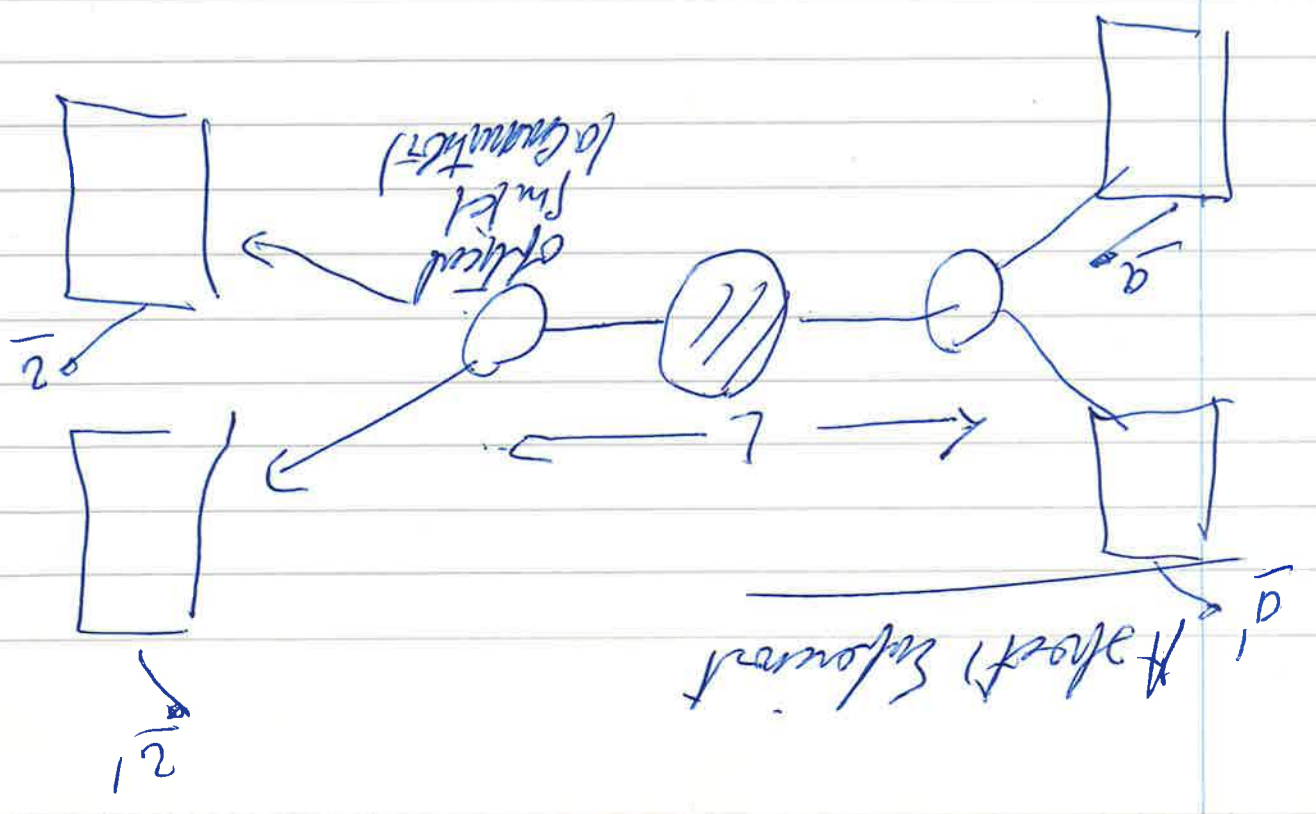
$$\text{frequency} = 0.175 \times 10^8 \text{ Hz} = 1.75 \text{ MHz}$$

$$T = 2.8 \times 10^{-8} \text{ sec}$$

frequency of oscillating the switch
is just half $T_h = 4 \times 10^{-8} \text{ sec}$

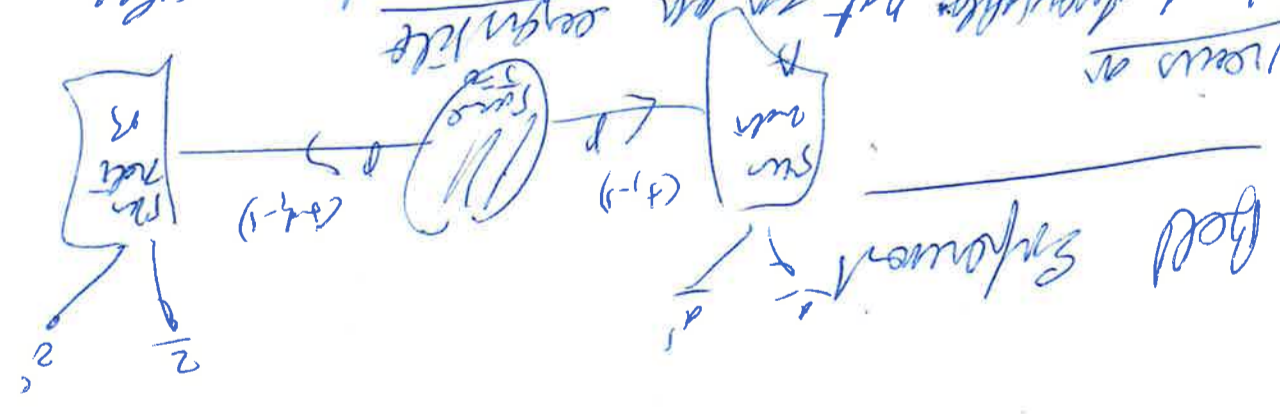
$$L = 12 \text{ meters} \quad \frac{L}{c} = 4 \times 10^{-8} \text{ sec} = 40 \text{ ns}$$

($1 \text{ nano-sec} = 10^{-9} \text{ sec}$)



5 Series of public casts

- 1. non-casualty, in sharp + sharp
- 2. underhand → defense
- 3. sharp → sharp
- 4. non-casualty effects
- 5. statistical effects



3 views on
Value of knowledge not an aggregate

View A
View B
View C
w/ sharp in sharp
w/ sharp in sharp

First
$$V_{\text{sharp}} - \frac{1}{2} (2(1.1) - (1.1) 2(1.1))$$

Shaw (17) } No reaction at 1/3 contact and SP.2
(Ponding 6000000)

Leaves better for not air in ground
otherwise into 1005 not needed

Shaw (18) } No leaves needed as EPR 1000

Input result of Red Teflon

Shaw (11) } Synthetic materials

Shaw (9) } But on view B PLCP is perfect design
each starting 2 for other design

Shaw (8) } PLCP

Shaw (7) } No Staff - Standard Material
for 1000000

Shaw (6) } No Heat Exchanger
offered
lighter
structure

Shaw (5) } No Red frequency

Shaw (39) } No Red Exponent

Shaw (3) } No Red Argument
LC3 → Red frequency

Flow of Redundant - Redundant Redund

1) Remove CVR from VR > Remove^x

Statement of CVR. Show (1)

2) Allocator to redundant system & CVR. Show (8)

3) Interpretation of CVR and validity

Mean of FVRC $\times \ast$

$$[f(a \pm)]_4 [2a, a]_3 (a, a) = f([a \pm]_4 [a, a]_3) (a, a)$$

get quite same as FVRC

But can be used to derive Equation of Super state of two a - 1 system

Comments

1) For 2 given elements CVR is calculated by neglect of state transitions

2) Remove & transport no of packets then use VR

3) What about stochastic h.v. flows
 FH goes up, packet can VR as R-H
 and of packets for (2) - LHA about
 frequency = 10 calls

Conclusion

Introduction of Physics & Philosophy

- 1) Physics changed the light of philosophy
 (over the years)
- 2) Philosophy was method in light
 of new theories in physics

Role of Philosophy of Physics

Don't want 'false paradigms' as models.
 → provide understanding of physics

show slide @

Final Remarks

— but the physics not understood

it - because they of physics not
 the study of philosophy of physics

The role of philosophy in physics
 is to provide understanding of what
 physics means in contemporary world



Of course theoretical physicists do not
philosophical analysis of a set in their
with - Einstein and Bohr are people
examples. However in the case of Copenhagen
G. R. many people fail to understand his
philosophy. Like Bohr gave us a
new way of looking at the world, Bohr
thought and looked at the world
and of his own.
But the surprising thing is that neither
philosophy is quite consistent with itself
of a sense one could claim that Einstein
did not understand relativity. But then
both quantum mechanics. But then
one can do physics without understanding
it rather like looking at things without
physics, anything about acid-base
differences. But how much better to
do physics and understand it to
continue the study of physics and
the study of philosophy of physics